

Request For Deviation / Waiver

Waiver # DAS-W02, Rev. 1Date 1 May 2002Deviation ☐ Waiver ☒

Originator

Name: ITT Industries, Inc	Address: ITT Industries, Inc. 1761 Business Center Drive Reston, VA 20190
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Title Of Deviation / Waiver: DAS DMU Bi-Phase Service Above 75 kbps**Contract Number:** GS-35-0109J, Order # S 87070-Y, Task 11 **Cage Code:** 9M715**Classification:** Minor ☒ Major ☐ Critical ☐**Part Number:** 021-147012 / 021-147010
Model 6002 **Title:** DAS Demodulator Model 6002**Effectivity:** All DAS pre-production and production DMUs **Recurring Deviation/ Waiver:** Yes. ☐ No ☒**Effect on Cost:** None, if approved **Effect on Schedule:** None, if approved**Effect on Logistics Support, Interface or Software:** None, if approved**Reference Documents: SRD Paragraphs:**

3.2.4.2.1.1.h — "... support a return link signal with a Symbol Format ... B1f-L. ..."

3.2.4.2.1.1.k — "... support a total return signal with a Data Rate Restriction of 1–300 kbps."

3.2.4.2.1.1.l — "... support a return ...I CHANNEL data rate ... of 1–150 kbps. "

3.2.4.2.1.1.m — "... support a return ...Q CHANNEL data rate ... of 1–150 kbps."

Description of Deviation / Waiver:

Waive Bi-Phase services above 75 kbps. Limit services above 75 kbps to NRZ Symbol Format.

Need for Deviation / Waiver:

DAS will not meet not meet the B1f-L specification for data rates above 75 kbps without a costly and major re-design. DAS uses a PNMf that provides parallel processing for rapid acquisition—the same PNMf for tracking in which the PNMf efficiently provides 'early', 'late' and 'on-time' PN correlations from a single path. Symbol timing is achieved by adjusting the PN chips summation that comprises a symbol. As the data rate increases, the number of PN chips per symbol decreases (e.g., 10 chips per symbol @ 300 kilo-baud—75 kbps bi-phase) which in turn decreases the resolution at which symbol timing adjustments can be made. This decrease in timing resolution results in degraded symbol tracking performance and leads to an effective SNR degradation.

Corrective action taken:

None. This model DMU will not meet this requirement. A new model will have to be developed.

Submitting Activity

Name: Walter E. Kearns	Title: ITT – AES, DAS PM	Signature:	Date: 10 May 2002
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Customer Approval / Disapproval

Approval <input type="checkbox"/>	Disapproval <input type="checkbox"/>	Date:
Name:	Title:	Signature: